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How to Use This Index

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The Subject Index to Volume 25 of *The Journal of the Acoustical Society of America* lists the titles of all the papers, abstracts, and patents under thirteen section headings as follows: 0, General, Unclassified; 1, Acoustical Society of America; 2, Architectural Acoustics; 3, Books, Bibliographies, and Surveys; 4, Ear and Hearing; 5, Applied Acoustics, Instruments and Apparatus; 6, Musical Instruments and Music; 7, Noise; 8, Standards; 9, Speech and Singing; 10, Ultrasonics (Supersonics); 11, Waves and Vibrations; 12 (Changed to Section 0); and 13, Underwater Sound. Each of these sections is further divided into a considerable number of decimally numbered subjects, which are listed below under the heading, "Classification of Subjects." Each subject is divided into seven parts entitled Papers, Letters to the Editor, Abstracts, Subtitles, Patents, Book Reviews, and Errata. Under Papers will be found the original titles of all the papers appearing in the journal on that subject. Under Abstracts are listed the titles of the papers presented at meetings. Since a great amount of valuable material appears in the journal in papers whose titles cannot fully describe all the subjects which the papers cover, some subtitles of papers have been indexed under the heading Subtitles. When subtitles covering the material did not appear in the paper, they were written; the captions of some of the figures were also included under this heading. Thus, while the Subtitles portion of the index is informal, it is hoped that it will increase the probability of finding the desired information quickly. All patents appearing in the journal are listed under the heading Patents.

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Effect of envelope shape on the masked threshold of short bursts of tone. R. S. Gales and R. C. Wilcott. 26: 944—1954

Laboratory evaluation of field measurements of the loudness of truck exhaust noise. D. B. Callaway and H. H. Hall. 26: 140—1954

Recorded test for determining absolute and masked thresholds of clicks, bands of noise, and warble tones. J. C. Webster and J. F. Nickerson. 26: 946—1954

SUBTITLES

Loudness *versus* loudness level. W. R. Garner. 26: 83—1954

ERRATA

Loudness relations in two-component tones. Arnold M. Small, Jr., and Willard R. Thurlow. 26: 871—1954

4.7 Masking. (See also 5.5.)

PAPERS

Masking of speech by repeated bursts of noise. Irwin Pollack. 26: 1053—1954

Pitch shifts accompanying certain auditory threshold shifts. J. C. Webster and E. D. Schubert. 26: 754—1954

Visual contribution to speech intelligibility in noise. W. H. Sumby and Irwin Pollack. 26: 212—1954

LETTERS TO THE EDITOR

Historical note on thermal masking noise and pure tone pitch changes. J. F. Corso. 26: 1078—1954

ABSTRACTS

Comparison of the masked thresholds of a simulated moving and stationary auditory signal. R. C. Wilcott and R. S. Gales. 26: 136—1954

ERRATA

Visual contribution to speech intelligibility in noise. W. H. Sumby and Irwin Pollack. 26: 583—1954

4.8 Phase Effects. (See also 4.3.)

ABSTRACTS

Phase and intensity relationships in the interference of bone- and air-conducted sound. John P. Dolch. 26: 942—1954

4.9 Pitch

PAPERS

Method of reproduction and the identification of elementary auditory displays. Irwin Pollack. 26: 1060—1954

Observation of the Tartini pitch produced by "sin $9x$+sin $13x$." Max F. Meyer. 26: 560—1954

Observation of the Tartini pitch produced by $\sin 11x+\sin 15x$ and $\sin 11x+2\sin 15x$. Max F. Meyer. 26: 759—1954

Pitch shifts accompanying certain auditory threshold shifts. J. C. Webster and E. D. Schubert. 26: 754—1954

Subjective musical pitch. W. D. Ward. 26: 369—1954

Time factors in relative and absolute pitch determination. A. Bachem. 26: 751—1954

LETTERS TO THE EDITOR

Historical note on thermal masking noise and pure tone pitch changes. J. F. Corso. 26: 1078—1954

Pitch discrimination, mels, and Kock's contention. S. S. Stevens. 26: 1075—1954

ABSTRACTS

Channels of reception in pitch discrimination. Andrew G. Pikler and J. Donald Harris. 26: 946—1954

Genesis of absolute pitch in the audio spectrum. Andrew G. Pikler. 26: 931—1954

On progressions of equal-appearing pitch intervals. J. Donald Harris. 26: 136—1954

Psychophysical comparison of just tuning with equal temperament in sequences of individual tones. W. D. Ward and D. W. Martin. 26: 932—1954

Subjective evaluation of musical scale temperament in pianos. D. W. Martin and W. D. Ward. 26: 932—1954

Subjective musical pitch. W. D. Ward. 26: 144—1954

SUBTITLES

Variability of octave judgments. W. D. Ward. 26: 370—1954

4.10 Subjective Tones

PAPERS

Observation of the Tartini pitch produced by "$\sin 9x+\sin 13x$." Max F. Meyer. 26: 560—1954

Observation of the Tartini pitch produced by $\sin 11x+\sin 15x$ and $\sin 11x+2\sin 15x$. Max F. Meyer. 26: 759—1954

Tartini *versus* Helmholtz judged by modern sensory observation. Max F. Meyer. 26: 761—1954

ABSTRACTS

Subjective evaluation of musical scale temperament in pianos. D. W. Martin and W. D. Ward. 26: 932—1954

4.11 Theories of Hearing

PAPERS

Method of reproduction and the identification of elementary auditory displays. Irwin Pollack. 26: 1060—1954

Observation of the Tartini pitch produced by $\sin 11x+\sin 15x$ and $\sin 11x+2\sin 15x$. Max F. Meyer. 26: 759—1954

Some further experiments upon the recognition of speech, with one and with two ears. E. Colin Cherry and W. K. Taylor. 26: 554—1954

LETTERS TO THE EDITOR

Note on the definition of the term: Hearing by bone conduction. G. v. Békésy. 26: 106—1954

ABSTRACTS

Cumulative effects of repeated bursts of white noise on threshold for 4000-cps tone-pips. Charles Lightfoot and James F. Jerger. 26: 945—1954

Measurement of human channel transmission characteristics. W. A. Munson and J. E. Karlin. 26: 945—1954

Method of reproduction and the identification of elementary auditory displays. Irwin Pollack. 26: 945—1954

Neural responses to clicks: an analysis of masked and unmasked intensity functions. Lawrence S. Frishkopf and Walter A. Rosenblith. 26: 943—1954

"Periodicity" pitch and "place" pitch. J. C. R. Licklider. 26: 945—1954

Phase and intensity relationships in the interference of bone- and air-conducted sound. John P. Dolch. 26: 942—1954

BOOK REVIEWS

The human senses. Frank A. Geldard. (Reviewed by Walter A. Rosenblith.) 26: 456—1954

5. Applied Acoustics, Instruments and Apparatus. (See also 2.8, 4.5, 9.6, 10.3, 13.11, 13.11n, and 13.11t.)

5.1 General, Unclassified

PAPERS

Acoustics in communication. J. B. Fisk. **26**: 644—1954

Experimental study of polarization effects in barium titanate ceramics. T. F. Heuter, D. P. Neuhaus, and J. Kolb. **26**: 696—1954

Information of elementary multidimensional auditory displays. Irwin Pollack and Lawrence Ficks. **26**: 155—1954

Loudspeakers and microphones. Leo L. Beranek. **26**: 618—1954

Review of twenty-five years of sound reproduction. Harry F. Olson. **26**: 637—1954

LETTERS TO THE EDITOR

Erratum: A tone burst generator. Kerim Onder. **26**: 453—1954

Logarithmic measure and the decibel. William M. Hall. **26**: 449—1954

Transducer efficiency *vs* transducer transmission efficiency. R. C. Mathes. **26**: 1078—1954

ABSTRACTS

Electroacoustics. Leo L. Beranek. **26**: 931(T)—1954

Environmental testing of airborne electronic components at high sound intensities. F. Mintz and M. B. Levine. **26**: 935—1954

Monitoring and controlling the motion of a sound source. Edith L. R. Corliss, Mahlon D. Burkhard, and Walter Koidan. **26**: 936—1954

PATENTS

Acoustic sleep-inducing apparatus. Charles Beazley. **26**: 271—1954

Apparatus for chemical reaction detection. Harley A. Wilhelm. **26**: 270—1954

Apparatus for controlling vibratory members. Ray E. Hall. **26**: 467—1954

Detecting pickup. Max K. Baker. **26**: 923—1954

Device for inducing sleep and rest. Frank H. Wiesman. **26**: 469—1954

Device for inhibiting sleep. John A. Mathis. **26**: 467—1954

Electrical measuring apparatus. James J. Griffin. **26**: 1095—1954

Electrical transducing element. Ross S. Marsden, Jr. **26**: 923—1954

Electric horn. Richard C. Nielsen and Peter Nielsen. **26**: 123—1954

Electromagnetic oscillatory motor provided with a cutting-action core. Enrique List. **26**: 922—1954

Frequency selector. Warren S. Eaton. **26**: 468—1954

Instrument for locating defects in machinery, pipe lines, and the like. Peter Sebastiani and Josef Sebastiani. **26**: 922—1954

Instrument for measuring magnetic permeability. Samuel Tierney, Jr. **26**: 468—1954

Means for damping electromechanical vibrator reeds. Joseph B. Dale. **26**: 467—1954

Pneumatic horn or signal. Lawrence Abbondandolo. **26**: 468—1954

Pressure transducer. Ivan A. Greenwood, Jr. **26**: 123—1954

Signal horn. David G. Stafford. **26**: 468—1954

Siren. Russell A. Gougeon. **26**: 123—1954

Sound annunciator. William L. Hansen. **26**: 467—1954

Sound producer for fishing apparatus. Stanley A. Wehn. **26**: 271—1954

Sound producing device. Shirly L. Graham and Henderson H. Howard. **26**: 596—1954

Sound producing device. Robert E. Swanson. **26**: 468—1954

Sound producing device for signaling purposes. Robert E. Swanson. **26**: 596—1954

Stethoscope with means for regulating the tone and pitch. Julius Brandenburg. **26**: 468—1954

Tone wheel to produce frequency-modulated low-frequency oscillations. Hans Eggers. **26**: 922—1954

Wind sounding device. Robert J. Nicolin. **26**: 270—1954

BOOK REVIEWS

Acoustics. Leo L. Beranek. (Reviewed by R. O. Fehr and Benjamin B. Bauer.) **26**: 912—1954

ERRATA

Information of elementary multidimensional displays. Irwin Pollack and Lawrence Ficks. **26**: 583—1954

5.2 Amplifiers and Attenuators

ABSTRACTS

Noise characteristics of cathode-follower input stages. Francis X. Byrnes. **26**: 946—1954

PATENTS

Communication compensation system for atmospheric pressure variation. Leslie J. Anderson. **26**: 1095—1954

BOOK REVIEWS

Audio amplifier manual. Howard W. Sams and Company, Inc. **26**: 1086(T)—1954

Fundamentals of transistors. Leonard M. Krugman. **26**: 913(T)—1954

Principles of transistor circuits. R. F. Shea, editor. (Reviewed by George C. Sziklai.) **26**: 457—1954

5.3 Acoustic and Mechanical Impedance Measurement. (See also 11.4.)

PAPERS

Acoustic impedance of a right circular cylindrical enclosure. Fernando Biagi and Richard K. Cook. **26**: 506—1954

Acoustic resistance of a pipe orifice to steady-state fluid flow. John K. Wood. **26**: 492—1954

Horn as a coupling element for acoustic impedance measurements. T. D. Northwood and H. C. Pettigrew. **26**: 503—1954

LETTERS TO THE EDITOR

Stationary behavior of acoustic impedances. Osman K. Mawardi. **26**: 101—1954

Transducer output by reaction measurements. Earl F. Kiernan. **26**: 451—1954

ABSTRACTS

Mechanical impedance transformers in relation to ultrasonic machining. Lewis Balamuth. **26**: 934—1954

5.4 Analyzers and Filters, Mechanical and Electrical. Acoustic Filters. Oscillographs. (See also 5.15.)

PAPERS

Design of visible speech devices. Gordon E. Peterson. **26**: 406—1954

LETTERS TO THE EDITOR

Use of the sound spectrograph for appraising the relative quality of musical instruments. Winston E. Kock. **26**: 105—1954

ABSTRACTS

Electronic distribution analyzer. F. Mansfield Young. **26**: 947—1954

Information of elementary multidimensional auditory displays. Irwin Pollack and Lawrence Ficks. **26**: 136—1954

Noneffect upon speech intelligibility of phase distortion produced by high-pass and low-pass filters. S. L. Smith and J. C. R. Licklider. **26**: 138—1954

SUBTITLES

Equivalent circuits of piezoelectric resonators with significant mechanical loss. Gordon E. Martin. **26**: 415—1954

Equivalent circuits—quartz transducers. John E. May, Jr. **26**: 348—1954

PATENTS

Electromechanical filter. Myron L. Anthony and Robert M. Virkus. **26**: 469—1954

Electromechanical filter. Myron L. Anthony and Robert M. Virkus. **26**: 470—1954

Harmonic analyzer and synthesizer apparatus. William O. Gates. 26: 596—1954
Light valve. Charles A. Hisserich, Malcolm C. Henderson, and Kenneth K. Wyckoff. 26: 123—1954
Multiple-neck filter. Walter van B. Roberts. 26: 470—1954
Multisection acoustic filter. Harry F. Olson. 26: 470—1954
Spectrum analyzer for compressional waves. Hyman Hurvitz. 26: 124—1954
Torsional filter. Leslie L. Burns, Jr., and Walter van B. Roberts. 26: 597—1954
Visual representation of complex waves. Ralph K. Potter. 26: 469—1954
Wave-form analyzing apparatus. William Grey Walter. 26: 469—1954
Wide-band spectrum analyzer. Ben H. Tongue. 26: 596—1954

5.5 Audiometers. (See also 4.4 and 4.5.)

PAPERS

Response of earphones in ears and couplers. Mahlon D. Burkhard and Edith L. R. Corliss. 26: 679—1954

5.5.1 Broadcasting

ABSTRACTS

Acoustics in communication. J. B. Fisk. 26: 940(T)—1954

PATENTS

Means for indicating the logarithmic value of a magnitude. Phillip Barnet Vanderlyn. 26: 470—1954

5.7 Frequency Standards, Frequency Measuring and Recording Instruments

ABSTRACTS

Simple stroboscopic frequency indicator. Serge L. Krauss. 26: 932—1954

PATENTS

Amplifying apparatus for use with telephones. David J. Ferrier. 26: 124—1954
Electronic frequency vernier. Louis D. Smullin. 26: 1095—1954

5.8 Loudspeakers, Horns. (See also 5.13, 5.17, and 5.18.)

PAPERS

Acoustical studies of the tractrix horn. I. Robert F. Lambert. 26: 1024—1954
Acoustical studies of the tractrix horn. II. A. O. Jensen and R. F. Lambert. 26: 1029—1954
Experimental investigation of wedge horns used with line hydrophones. C. M. KcKinney and C. D. Anderson. 26: 1040—1954
Loudspeaker accessory for the production of reverberant sound. Daniel W. Martin and Armand F. Knoblaugh. 26: 676—1954
Loudspeakers and microphones. Leo L. Beranek. 26: 618—1954
Physical approach to the generalized loudspeaker problem. Osman K. Mawardi. 26: 1—1954

LETTERS TO THE EDITOR

Note on longitudinal vibrational amplitudes of solid conical horns. Robert H. Quint. 26: 252—1954
Power capacity of loudspeakers. Paul S. Veneklasen. 26: 98—1954
Transducer efficiency *vs* transducer transmission efficiency. R. C. Mathes. 26: 1078—1954

ABSTRACTS

Acoustical study of the tractrix horn. Robert F. Lambert. 26: 139—1954
Electroacoustics. Leo L. Beranek. 26: 931(T)—1954
Loudspeaker accessory for the production of reverberant sound. Daniel W. Martin and Armand F. Knoblaugh. 26: 144—1954
New line of high-fidelity loudspeakers. Harry F. Olson and John Preston. 26: 139—1954

SUBTITLES

Equivalent network of a loudspeaker. Osman K. Mawardi. 26: 9—1954
Plane loudspeaker in an infinite baffle. Osman K. Mawardi. 26: 3—1954

PATENTS

Acoustic device with an inverted horn having a throat vented to the atmosphere. Stephen L. Heidrich. 26: 124—1954
Acoustic ear pendant. Donald F. Balmer. 26: 124—1954
Air conditioning and speaker unit for automobiles. James R. Kendrick. 26: 271—1954
Apparatus for improving the reproduction of sound. Stevan Dragutin Zivadinovic. 26: 470—1954
Cabinet for loudspeakers and the like. Benedict Doms. 26: 923—1954
Cabinet for sound translating apparatus. Harry F. Olson and John Preston. 26: 125—1954
Compliant supports for transducer diaphragms. Lyndall Crossthwaite Pocock. 26: 125—1954
Diaphragm for loud speakers. Fulvio Levi. 26: 1095—1954
Electrically actuated out-of-door speaker. Ilo M. Brown. 26: 597—1954
Elliptical, conoidal sound reproducing diaphragm. Robert E. Hurley. 26: 597—1954
Explosion-proof acoustic device. Abraham L. Pittinger. 26: 471—1954
High fidelity loudspeaker cabinet. William R. Anthony. 26: 271—1954
Immersible electrodynamic loudspeaker. John D. Seabert. 26: 470—1954
Loudspeaker. Pierre Varnet. 26: 471—1954
Loudspeaker baffle with elongated aperture for the egress of sound. Roger Chapman and Robert Henry Trier. 26: 125—1954
Loudspeaker diaphragm with transversely arched stiffener means. Sidney E. Levy and Abraham B. Cohen. 26: 271—1954
Loudspeaker system. John E. Parker. 26: 471—1954
Means for improving frequency response of sound systems. Edmund T. Flewelling. 26: 470—1954
Method of making loudspeaker diaphragms. Joseph B. Brennan. 26: 124—1954
Method of making loudspeakers. Earl L. Russell. 26: 597—1954
Portable radio with a bass-reflex cabinet. Harry F. Olson and John Preston. 26: 125—1954
Sound and heating apparatus for drive-in theaters. Walter G. Dion and Gerald J. Dion. 26: 471—1954
Sound generating device. Louis Santino. 26: 125—1954
Sound reproducer attachment for headrests. George A. LaFitte. 26: 124—1954
Sound transmitting device with an ellipsoidal reflector. Joseph Leon. 26: 271—1954

5.9 Microphones, Vibration Microphones. Microphone Calibration Equipment and Techniques. (See also 5.18 and 13.11t.)

PAPERS

Acoustic method for the measurement of vibration amplitudes. Walter Koidan. 26: 428—1954
Artificial voice and miniature anechoic chamber for hearing aid measurements. Richard W. Carlisle. 26: 389—1954
Loudspeakers and microphones. Leo L. Beranek. 26: 618—1954
Pressure calibration of condenser microphones above 10 000 cps. Bernard D. Simmons and Fernando Biagi. 26: 693—1954
Theory of the effect of a thin air film on the vibrations of a stretched circular membrane. Donald H. Robey. 26: 740—1954
Undirectional microphone utilizing a variable distance between the front and back of the diaphragm. A. M. Wiggins. 26: 687—1954

ABSTRACTS
Acoustical design and measurements of the Communication and Navigation Laboratory anechoic chamber. Robert K. Duncan, Daniel W. Martin, Arthur L. Peters, and Edward Lazur. 26: 145—1954
Behavior of microphones at elevated temperatures. D. M. A. Mercer. 26: 936—1954
Construction of an inexpensive anechoic chamber. Robert Berger and Eugene Ackerman. 26: 145—1954
Electroacoustics. Leo L. Beranek. 26: 931(T)—1954
Instrumentation for the measurement of sound power. Theodore John Schultz. 26: 936—1954
Monitoring and controlling the motion of a sound source. Edith L. R. Corliss, Mahlon D. Burkhard, and Walter Koidan. 26: 936—1954
Noncontact microdisplacement meter. Harold Sharaf. 26: 143—1954
Probe microphone development. Kenneth Goff and Bill G. Watters. 26: 936—1954
Progress in accelerometer calibration. Earle Jones, Seymour Edelman, and Ernest R. Smith. 26: 935—1954
Recent developments in the calibration of microphones. M. D. Burkhard, F. Biagi, R. K. Cook, E. L. R. Corliss, and W. Koidan. 26: 935—1954
Self-noise of cylindrical microphone windscreens. Ira Dyer. 26: 935—1954
Theory of the effect of a thin air film on the displacement of a stretched circular membrane. Donald H. Robey. 26: 949—1954
Third-order pressure gradient microphone. A. L. Witchey and Mones Hawley. 26: 139—1954
Wedge horns for use with line hydrophones. C. M. McKinney and C. D. Anderson. 26: 139—1954
SUBTITLES
Responses of Western Electric type 640AA condenser microphones Nos. 646 and 1087 at very low frequencies. Fernando Biagi and Richard K. Cook. 26: 508—1954
PATENTS
Audio limiter circuits. Lawrence C. Fuller, Jr. 26: 471—1954
Capacity microphone with variable directional characteristic. Herbert Grosskopf. 26: 1096—1954
Electroacoustical signal transducer. Robert K. Duncan. 26: 125—1954
Flexible microphone suspension. Edwin B. Newman and John Volkmann. 26: 126—1954
Loudspeaker cabinet. John Forrester. 26: 272—1954
Means for preventing infiltration of magnetic dirt particles into the air gap between poles of microphone magnetic structures. Robert K. Duncan. 26: 923—1954
Reactively actuated acousto-electric transducer. Stanley M. Church. 26: 272—1954
Sound filter for microphones and telephones. Machiel de Vries. 26: 272—1954
Thermomagnetic transducer. Leslie J. Anderson and Mones E. Hawley. 26: 1095—1954
BOOK REVIEWS
Messung der ubertragungseigenschaften von telephonen, mikrophonen und fernsprechern. Martin Gosewinkel. (Reviewed by Harry F. Olson.) 26: 1085—1954

5.10 Navigational Instruments Using Air Sound. Altitude Measuring Instruments. Sound Ranging (for Underwater Ranging see 13.11n). Geophysical Prospecting

PATENTS
Apparatus for eliminating horizontally traveling waves. John P. Woods. 26: 1096—1954
Apparatus for producing seismic waves in a body of water. Alma J. Hintze. 26: 272—1954
Compressional wave telemetering device. Joseph M. Johnston, Joseph B. Olsen, and John A. Moulden. 26: 274—1954
Detector for seismic exploration. Warren A. Alexander. 26: 274—1954
Geophysical display system. Frank Rieber. 26: 472—1954
High-explosive disk-shaped charge for seismic exploration. Thomas C. Poulter. 26: 472—1954
Magnetostriction seismometer. Charles G. Cruzan. 26: 273—1954
Marine seismic surveying. Waddie W. Doolittle. 26: 273—1954
Marine seismometer spread. Charles C. Lash. 26: 472—1954
Method and apparatus for recording seismic signals. John P. Minton. 26: 1096—1954
Method and apparatus for seismic exploration. Thomas C. Poulter. 26: 1096—1954
Method and apparatus for seismic prospecting. Dayton H. Clewell. 26: 1096—1954
Method and apparatus for seismic prospecting in which seismic waves are used to modulate a sonic or supersonic carrier wave. Patrick E. Haggerty. 26: 272—1954
Method of eliminating undesired component of seismic waves. Raymond G. Piety. 26: 272—1954
Method of measuring the cross-sectional area of boreholes. Earle R. Atkins, Jr. 26: 273—1954
Rotational seismometer. Raymond G. Piety. 26: 472—1954
Seismic prospecting. Charles W. Oliphant. 26: 472—1954
Seismic surveying. Arthur F. Hasbrook. 26: 273—1954
Seismic surveying. Arthur F. Hasbrook. 26: 273—1954
Seismic vibration detector. John A. Stafford. 26: 471—1954
Seismographic prospecting. Charles B. Bazzoni and Lacoste G. Ellis. 26: 1096—1954
Shot hole array for eliminating horizontally traveling waves. John P. Woods. 26: 273—1954
Sonic system for augmenting the extraction of oil from oil bearing strata. Albert G. Bodine, Jr. 26: 1096—1954
Transducer testing apparatus. Jesse R. Cornett. 26: 273—1954
Vertical component low-frequency geophone. George B. Loper and Stanley N. Heaps. 26: 272—1954

5.11 Oscillators, Electrical and Mechanical

PAPERS
Determination of equivalent-circuit constants of piezoelectric resonators of moderately low Q by absolute-admittance measurements. Gordon E. Martin. 26: 413—1954
ABSTRACTS
Hydrodynamic feedback oscillators. John V. Bouyoucos. 26: 947—1954
PATENTS
Audio-sweep frequency generator. George A. Argabrite. 26: 472—1954
Frequency band generator. Seymour Edelman and Albert London. 26: 126—1954

5.13 Public Address Systems and Sound Picture Installations

PAPERS
Effect of arrival time on stereophonic localization. William B. Snow. 26: 1071—1954
Sound systems for large auditoriums. L. L. Beranek. 26: 661—1954
ABSTRACTS
Sound systems for recent large auditoriums. Leo L. Beranek. 26: 953(T)—1954
PATENTS
Auto circuit for drive-in theaters. Richard A. Satterfield. 26: 274—1954
Automatic volume control. Herbert W. Augustadt and Walter F. Kannenberg. 26: 597—1954
Broadcasting and intercommunication system. Layne O. Hodson, Garold Hodson, and Clark Ross. 26: 473—1954
Device for the transmission by electrical means of oscillations of acoustic frequency. Henricus Adrianus Broos. 26: 274—1954

Intercommunicating apparatus. Richard H. Campbell. **26:** 473—1954
Intercommunication telephone system. Edgar Ivens and Harry G. Wall. **26:** 472—1954
Method of obtaining stereophonic sound. Aage Holt-Seeland. **26:** 473—1954
Two-way loudspeaker telephone installation. Pierre Jeanlin. **26:** 472—1954

5.15 Sound Level Meters. Level Recorders. Sound Pressure Measurement. (See also 5.4.)

PAPERS
Information of elementary multidimensional auditory displays. Irwin Pollack and Lawrence Ficks. **26:** 155—1954
Technique and a scale for loudness measurement. W. R. Garner. **26:** 73—1954

ABSTRACTS
Direct-reading harmonic analyzer for use in the study of the quality of musical sounds. C. A. Culver. **26:** 144—1954
Instrumentation for the measurement of sound power. Theodore John Schultz. **26:** 936—1954

SUBTITLES
Loudness *versus* loudness level. W. R. Garner. **26:** 83—1954

PATENTS
Electric and electronic instruments and method of assembly. Henry Chrystie. **26:** 597—1954

ERRATA
Information of elementary multidimensional displays. Irwin Pollack and Lawrence Ficks. **26:** 583—1954

5.16 Sound Recording and Reproducing. General

PAPERS
Review of twenty-five years of sound reproduction. Harry F. Olson. **26:** 637—1954

ABSTRACTS
Sound reproduction. Harry F. Olson. **26:** 940(T)—1954

PATENTS
Apparatus for stereophonic sound recording. Hans Friess. **26:** 598—1954
Automatic tone control. Wolf J. Gruen. **26:** 274—1954
Automatic volume control. Herbert W. Augustadt. **26:** 474—1954
Automatic volume control. Walter F. Kannenberg. **26:** 274—1954
Combination sound recording and record. Dorothy L. Blaney. **26:** 126—1954
Identification code on sound records. Louis L. Billar. **26:** 474—1954
Magnetic record player. Marvin Camras. **26:** 126—1954
Magnetic sound-recording apparatus. Andre Marie Bernard Charlin. **26:** 126—1954
Magnetic sound system. Arthur C. Albee and Hugh C. Ward. **26:** 474—1954
Magnetic tape recorder-reproducer. Edward N. Dingley, Jr. **26:** 473—1954
Photoelectric translating system. Benjamin F. Miessner. **26:** 275—1954
Signal generating and switching circuit for recording devices. Kenneth K. Clarke. **26:** 923—1954
Sound recording camera. Warren R. Isom. **26:** 1097—1954
Spatial music projecting device. Pierre H. Schaeffer. **26:** 473—1954
Stereophonic reproduction apparatus. Kornelis de Boer. **26:** 473—1954

BOOK REVIEWS
Audio reproduction. David Fidelman. (Reviewed by Floyd A. Firestone.) **26:** 262—1954

5.16d Disk Recording (including cutting and embossing)

PAPERS
Dual-stylus ceramic phonograph pickup development. H. W. Koren, H. A. Pearson, H. Klingener, and R. W. Sabol. **26:** 15—1954
Noise level and mechanical stresses in plastic sound records. Ernest A. Keller. **26:** 685—1954

SUBTITLES
Sonotone Model 9980 cartridge response. H. W. Koren, H. A. Pearson, H. Klingener, and R. W. Sabol. **26:** 17—1954

PATENTS
Adapter for phonograph records. Colin B. Dale. **26:** 475—1954
Apparatus and method for producing disk phonograph records. Ivan J. Amo. **26:** 275—1954
Apparatus for supporting and manipulating phonograph records. David M. Groves. **26:** 474—1954
Automatic phonograph. Alfred E. Comstock. **26:** 126—1954
Automatic phonograph. Alfred E. Comstock. **26:** 127—1954
Automatic phonograph. Slingsby D. Harmon. **26:** 599—1954
Automatic phonograph mechanism. Joseph M. Baxter. **26:** 475—1954
Automatic phonograph record playing mechanism. Benjamin R. Carson. **26:** 128—1954
Automatic voice recorder. Robert M. Cain. **26:** 275—1954
Control device for electrical circuits. Harry C. Warner. **26:** 128—1954
Control means for phonographs. Edmund Walter Mortimer. **26:** 474—1954
Device for converting motion into electrical energy. Albert E. Shaw and Robert J. Moon. **26:** 128—1954
Doll. Michael F. Murray. **26:** 474—1954
Drive system for crystal pickups. Norman F. Martin. **26:** 599—1954
Electromechanical transducer. Leslie J. Anderson and Robert K. Duncan. **26:** 275—1954
Electronic transducer tube. Gardner L. Krieger. **26:** 599—1954
Improved phonograph pickup apparatus. Benjamin B. Bauer. **26:** 475—1954
Master sound record. Earle W. Jones. **26:** 599—1954
Method of assembling phonograph translating devices. Lee Gunter, Jr. **26:** 129—1954
Multiple stylus pickup. Clarence F. Jensen. **26:** 476—1954
Noise discriminating system. Harry F. Olson and John Preston. **26:** 276—1954
Phonograph. Colin B. Dale. **26:** 127—1954
Phonograph and the like. Edmund Walter Mortimer and Edward William Wilkins. **26:** 474—1954
Phonograph apparatus. Benjamin B. Bauer. **26:** 599—1954
Phonograph needle. Frederick C. Holtz, Jr. **26:** 476—1954
Phonograph needle. Frederick C. Holtz, Jr. **26:** 600—1954
Phonograph needle. Frederick C. Holtz, Jr. **26:** 924—1954
Phonograph needle. Kube Krisch. **26:** 127—1954
Phonograph pickup. Peter C. Goldmark and René Snepvangers. **26:** 1097—1954
Phonograph pickup. Hubertus Jan Smits. **26:** 598—1954
Phonograph pickup device and the like. Henry E. Roys. **26:** 476—1954
Phonograph pickup test equipment. J. Guy Woodward. **26:** 924—1954
Phonograph record. Allan R. Ellsworth. **26:** 127—1954
Phonograph record changer. Elmer L. Hoffmann and Richard A. Nelson. **26:** 924—1954
Phonograph reproducer arm assembly. William S. Bachman. **26:** 925—1954
Phonograph reproducer arm assembly. Peter C. Goldmark. **26:** 925—1954
Phonograph spindle aperture reducer. William H. Myers. **26:** 475—1954

Phonograph stylus. Elmer V. Carlson. 26: 127—1954
Phonograph tone arm. Lloyd J. Andres. 26: 128—1954
Pickup arm for phonographs. Donald J. Baker. 26: 924—1954
Pickup arm having a rotatable cartridge with two needles. Walter Miller and James L. D. Morrison. 26: 128—1954
Pickup cartridge and tone arm assembly for phonographs. Maurice Palo and Alexander L. Dvorsky. 26: 276—1954
Portable sound recording and reproducing machine. Frank L. Moore and Willard A. Roberts. 26: 126—1954
Record changer. Frank Freimann, Carl Hart, and Arthur L. Knox, Sr. 26: 924—1954
Record changer. George E. Redfield. 26: 275—1954
Record changer. Dudley H. Smith. 26: 275—1954
Record-changer head and tone-arm assembly. Walter Miller and James L. D. Morrison. 26: 475—1954
Record-changer mechanism. Rudolph A. Becwar. 26: 474—1954
Record-changing device. Harvey C. Habegger. 26: 475—1954
Record-changing phonograph. Johan Samuel Zandelin. 26: 475—1954
Recording disk clamping device. Ulric O. Hutton. 26: 599—1954
Record speed adapter. Gordon S. Carbonneau. 26: 474—1954
Sliding carriage pickup assembly. Earl E. Masterson. 26: 1097—1954
Sound reproducing device. Philip E. Ponticello. 26: 275—1954
Stepback mechanism for dictating machine playback arms. Donald F. Balmer. 26: 598—1954
Stylus protecting device. Joseph A. Rescsanski and John Ronald Hopkins. 26: 598—1954
"WOW" analysis apparatus. Robert H. Dreisbach. 26: 598—1954

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Automatic record changer service manual. Volume V. Howard W. Sams and Company, Inc. 26: 588—1954

5.16f Film Recording (by photographic means)

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Cathode-ray tube sound recorder. John V. Atanasoff and Ronald J. Wylde. 26: 1097—1954
Crystal light valve for sound-on-film recording. Robert Dressler and Albert A. Chesnes. 26: 276—1954
Direct positive sound recording. Arthur C. Blaney and Kurt Singer. 26: 129—1954
Method of processing sound film. Gerald M. Best. 26: 129—1954
Recording and reproducing sound. Emile Alfred Pierre. 26: 129—1954
Sound and picture changeover system. John F. Byrd and James D. Phyfe. 26: 925—1954
Sound pickup and reproducing apparatus. John MacDonell. 26: 600—1954
Sound re-recording method and system. Kurt Singer. 26: 129—1954
Sound stabilization system. Reginald A. White. 26: 925—1954
Universal focus sound scanning system. Frank N. Gillette. 26: 600—1954

BOOK REVIEWS

New screen techniques. Martin Quigley, Jr., editor. (Reviewed by Harry F. Olson.) 26: 112—1954

5.16m Magnetic Recording

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New developments in stereophonic sound. B. Paulson. 26: 946—1954
Time distortion in magnetic recording. F. Mansfield Young. 26: 947—1954

PATENTS

Apparatus for magnetic recording. Lawrence H. Connell. 26: 477—1954
Apparatus for producing variable width magnetic recordings. Semi Joseph Begun. 26: 277—1954
Artificial reverberation. James R. Ambrose. 26: 1101—1954
Automatic stop arrangement for magnetic recorders. Marvin Camras. 26: 278—1954
Azimuth test film system and method. Michael Rettinger. 26: 1100—1954
Combination chronometer and sound reproducing instrument. John T. Offutt. 26: 476—1954
Combination photographic and magnetic sound record and method for producing same. Dorothy L. Blaney. 26: 601—1954
Combined magnetic transducer head and output transformer. Hugh A. Howell. 26: 1098—1954
Combined record-erase head for magnetic recorders. Palle-Finn Beer. 26: 278—1954
Communication system utilizing magnetic recorders. George H. Lee. 26: 1099—1954
Demagnetizer for magnetic recorder reproducer. William A. Brastad. 26: 478—1954
Drive for magnetic tape. Emmanuel Berlant. 26: 1098—1954
Drive mechanism for magnetic recorders. Marvin Camras. 26: 601—1954
Electric dictation installation. John Edward Godeck. 26: 926—1954
Electromagnetic transducer head. Marvin Camras. 26: 130—1954
Electromagnetic transducer head. Marvin Camras. 26: 477—1954
Equipment for use with multitrack magnetic tape records. Bruce Roberts. 26: 1099—1954
Erasing head for magnetic recording. Donald L. Clark. 26: 477—1954
Erasing means for magnetic recorders. Robert M. Cain. 26: 278—1954
Magnetic duplicating method and means. Marvin Camras. 26: 1099—1954
Magnetic head. John R. Anderson. 26: 602—1954
Magnetic head and method of making same. Frederick G. Buhrendorf. 26: 1101—1954
Magnetic head construction. Michael Rettinger. 26: 130—1954
Magnetic recorder. Marvin Camras. 26: 277—1954
Magnetic recorder. Marvin Camras. 26: 281—1954
Magnetic recorder. Clarence N. Hickman. 26: 280—1954
Magnetic recorder. Hugh A. Howell and Elmer B. Offutt. 26: 131—1954
Magnetic record eraser. Eugene H. Lombardi. 26: 131—1954
Magnetic record erasing transducer. Michael Rettinger. 26: 1100—1954
Magnetic recording. Gregory E. Berens and Charles Colbert. 26: 602—1954
Magnetic recording and reproducing. Semi Joseph Begun. 26: 479—1954
Magnetic recording and reproducing. Otto Kornei. 26: 277—1954
Magnetic recording and reproducing. Thomas E. Lynch. 26: 280—1954
Magnetic recording and reproducing. Alfred L. W. Williams. 26: 1102—1954
Magnetic recording and reproducing apparatus. Alfred L. W. Williams. 26: 1100—1954
Magnetic recording and reproducing apparatus combined with disk reproducer. Bruce Roberts. 26: 130—1954
Magnetic recording and reproducing applicator. Lennart Oliver Hamberg. 26: 1100—1954

Magnetic recording and reproducing circuits. Lloyd J. Bobb. 26: 279—1954
Magnetic recording and reproducing device. Oscar August Ericsson. 26: 1100—1954
Magnetic recording and reproducing device. Henry James Harsant and Theodore Frank Deucher. 26: 478—1954
Magnetic recording and reproducing head. Joseph W. Gratian. 26: 277—1954
Magnetic recording apparatus. Nathan M. Haynes. 26: 130—1954
Magnetic recording art. Franz L. Putzrath. 26: 478—1954
Magnetic recording-reproducing device. Frederick G. Buhrendorf. 26: 478—1954
Magnetic recording system with negative feedback system. Myron J. Stolaroff. 26: 278—1954
Magnetic record transducing system and guide structure. Semi Joseph Begun. 26: 601—1954
Magnetic reproducing service for automobiles. Lawrence H. Connell. 26: 478—1954
Magnetic sound apparatus. Marvin Camras. 26: 477—1954
Magnetic sound pickup recorder head and support therefor. Ellis Wellington D'Arcy. 26: 1099—1954
Magnetic sound record editing machine. Carlos E. Rivas. 26: 280—1954
Magnetic sound recorder. Ernst Keller. 26: 476—1954
Magnetic-sound recording and reproducing apparatus. Robert Erik Olov Olsson and Allan Birger Dahl. 26: 477—1954
Magnetic sound-recording and reproducing machine. Earl E. Masterson. 26: 601—1954
Magnetic sound recording method. Hermann Rohling. 26: 1102—1954
Magnetic spot recorder for statistical data. Howard M. Fleming, Jr. 26: 131—1954
Magnetic tape recorder. Nathan M. Haynes. 26: 600—1954
Magnetic telegraphophone transducer. William J. Field and Robert L. Perkins. 26: 602—1954
Magnetic transducer. Albert W. Friend. 26: 130—1954
Magnetic transducer construction. Michael Rettinger. 26: 280—1954
Magnetic transducer head. Charles C. Davis. 26: 131—1954
Magnetic transducing apparatus. Alfred L. W. Williams. 26: 279—1954
Means for improving the performance of magnetic sound recording and reproducing heads. Lynn C. Holmes. 26: 478—1954
Means for recording electric signals. William T. Crespinel. 26: 277—1954
Method and means of magnetic recording and reproducing sound. Lawrence H. Connell. 26: 1098—1954
Method of magnetically recording and mechanism therefor. Hugh A. Howell. 26: 280—1954
Method of making electromagnetic transducers. Frederick G. Buhrendorf. 26: 1101—1954
Motion-picture film handling apparatus. Guillermo A. del Valle and Allan S. Jones. 26: 479—1954
Multilayer magnetic-record member. Otto Kornei. 26: 476—1954
Multiple head mounting structure. James L. Pettus. 26: 279—1954
Negative feedback applied to magnetic recording. Michael Lawrence Gayford and William Donald Cragg. 26: 477—1954
Oscillator-amplifier circuits for magnetic recording and reproducing systems. Daniel H. Dashiell. 26: 477—1954
Phonographic reproducing machine. Richard M. Somers. 26: 926—1954
Playback circuit for magnetic recordings. Howard M. Fleming, Jr. 26: 131—1954
Process and apparatus for developing visible sound records synchronized with invisible recordings on magnetic tapes. Otto Kurt Kolb and Axel Carl Georg Petersen. 26: 1102—1954
Production of magnetic sound tape. William C. Speed and James J. Dwyer. 26: 279—1954
Production of magnetic sound tape. William C. Speed and James J. Dwyer. 26: 1098—1954
Protective device for magnetic recorders. Lloyd E. Chick. 26: 277—1954
Recorder head. Reuben A. Isberg. 26: 478—1954
Recording and reproducing head. Benjamin B. Bauer and Lee Gunter, Jr. 26: 281—1954
Recording and translating device. John Victor Nelson. 26: 280—1954
Reproducer for magnetically recorded signals. Arthur E. Canfora. 26: 478—1954
Reproduction of signals from magnetic records. Frank Gray. 26: 600—1954
Shield and guide for magnetic recorder-reproducer heads. William A. Brastad. 26: 130—1954
Sound recording and reproducing apparatus. Arthur C. Davis. 26: 280—1954
Sound recording and reproducing apparatus. Robert H. Dicke. 26: 279—1954
Sound recording and reproducing apparatus. Harold G. Foote and William J. Moreland. 26: 277—1954
Sound recording and reproduction system. Herman S. Heller and Willard W. Stofer. 26: 1099—1954
Sound reproduction device using endless recording tapes. Graham P. Smith. 26: 1098—1954
Tape-recorder feed mechanism. Robert H. Carson. 26: 479—1954
Transducer. David J. Munroe. 26: 1099—1954
Wide frequency-range magnetic recording and reproducing system. Fred B. Daniels. 26: 131—1954
Winding mechanism for magnetic recorders. Fernand de Clerck. 26: 1100—1954
Wire reel for magnetic wire recorders. Howard L. Rumsey and Matthew C. Abbott. 26: 278—1954

5.17 Telephone, Telephone Receivers

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Acoustic factors in the design of noise-reducing telephone booths. D. E. Bishop, F. G. Hewitt, and D. B. Callaway. 26: 318—1954
Response of earphones in ears and couplers. Mahlon D. Burkhard and Edith L. R. Corliss. 26: 679—1954

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Acoustics in communication. J. B. Fisk. 26: 940(T)—1954
Vobanc-voice band compressor. B. P. Bogert. 26: 137—1954

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Amplifying device for use with telephone apparatus. John C. S. Branson and Leslie C. Branson. 26: 281—1954
Apparatus for use in telephone or like communication systems. Keith S. Stanbury. 26: 281—1954
Headset for supporting a telephone. John F. Anderson. 26: 281—1954
Sound translating device with resonating and damping chamber. Harold C. Pye. 26: 926—1954
Telephone amplifying apparatus. Matthys L. M. Souget and Norman L. Chalfin. 26: 132—1954
Telephone apparatus. Edward Shipton. 26: 602—1954
Telephone circuit. Harris F. Hopkins. 26: 479—1954
Telephone listening aid. John F. Anderson. 26: 926—1954
Voice muffler. Harry C. Tuttle. 26: 926—1954

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Messung der ubertragungseigenschaften von telephonen, mikrophonen und fernsprechern. Martin Gosewinkel. (Reviewed by Harry F. Olson.) 26: 1085—1954

5.18 Transducing Principles and Structures. Thermophones. (See also 5.8, 5.9, 5.17, 10.3, 13.7, and 13.11t.)

PAPERS

Characteristics of radiating variable resonant frequency crystal systems. Walter Welkowitz and William J. Fry. 26: 159—1954

Dual-stylus ceramic phonograph pickup development. H. W. Koren, H. A. Pearson, H. Klingener, and R. W. Sabol. 26: 15—1954

Experimental study of polarization effects in barium titanate ceramics. T. F. Hueter, D. P. Neuhaus, and J. Kolb. 26: 696—1954

Maximum directivity index of a linear point array. R. L. Pritchard. 26: 1034—1954

Rapid method of evaluating magnetostrictive materials for electromechanical transducers. Miles T. Pigott and Paul M. Kendig. 26: 974—1954

LETTERS TO THE EDITOR

Linear, passive, nonreciprocal transducer. Robert J. Bobber and Charles L. Darner. 26: 98—1954

Suppression of flexural vibrations of barium titanate. C. L. Darner. 26: 256—1954

Transducer efficiency *vs* transducer transmission efficiency. R. C. Mathes. 26: 1078—1954

ABSTRACTS

Anistropy of polarized polycrystalline barium titanate. Donald S. Moseley. 26: 950—1954

Corona discharge transducer. Burt W. Blum, Ira Dyer, and Uno Ingard. 26: 139—1954

Dynamic magnetostrictive properties of Alfenol. C. M. Davis, I. L. Robey, and S. F. Ferebee. 26: 936—1954

Effect of acoustic loading on the vibration patterns of barium titanate and quartz disks. R. J. Sujir and E. A. G. Shaw. 26: 934—1954

Effect of a DC-bias on barium titanate near thickness resonance. J. Kolb and T. F. Hueter. 26: 139—1954

Electroacoustics. Leo L. Beranek. 26: 931(T)—1954

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Ceramic transducer element. Glenn N. Howatt. 26: 132—1954

Electrokinetic angular accelerometer. Edward V. Hardway, Jr. 26: 282—1954

Electrokinetic device. Edward V. Hardway, Jr. 26: 282—1954

Electrokinetic device and electrode arrangement therefor. Edward V. Hardway, Jr. 26: 282—1954

Electrokinetic measuring instrument. Edward V. Hardway, Jr. 26: 479—1954

Integral electrode with lead wire anchor for piezoelectric crystal. Marcel Charles Tournier. 26: 282—1954

Method of polarizing ceramic transducers. Alfred L. W. Williams. 26: 282—1954

Piezoelectric crystal unit. Arthur W. Ziezler. 26: 479—1954

Piezoelectric device. Hans Jaffe. 26: 480—1954

Piezoelectric device. James E. Mumper. 26: 480—1954

Piezoelectric transducer. Walter L. Cherry, Jr. 26: 132—1954

Piezoelectric transducer. Warren P. Mason and Bernd T. Matthias. 26: 926—1954

Piezoelectric transducer and method for producing same. Robert Adler. 26: 926—1954

Pressure pickup element. Harwood F. Rundell. 26: 603—1954

Process for making transducer devices having bonded elements. Andrew Szegvari and Charles K. Gravley. 26: 132—1954

Transducer device electromechanically sensitive to flexure. Hans G. Baerwald. 26: 479—1954

Vented casing and vaporproof enclosure for sound transducers. Richard W. Carlisle. 26: 602—1954

5.19 Tuning Forks

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Vibrating reed device. Lee G. Bostwick. 26: 1102—1954

5.21 Vibration Devices. Devices for Generating or Damping Vibrations. (See also 2.11 and 5.9.)

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Acoustic method for the measurement of vibration amplitudes. Walter Koidan. 26: 428—1954

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Apparatus for generating large mechanical vibrations. Edward W. Smith. 26: 133—1954

Electrical vibratory apparatus. A. R. Willson and D. W. Nelson. 26: 283—1954

Electric vibration pickup. Jan Severs. 26: 603—1954

Electronic noise detector. Walter F. Sanders. 26: 132—1954

Fin vibration damping means. George H. Keller. 26: 133—1954

Frequency modulated torsional vibration analyzer. Frederick W. Chapman. 26: 283—1954

Friction snubber for railway car truck springs. H. W. Mulcahy. 26: 133—1954

Starting system for vibration test apparatus. Robert N. Johnson. 26: 1102—1954

Vibration, acceleration, pressure, and position pickup device. Glen E. Sanderson. 26: 1102—1954

Vibration damper. Gilles Francois Sarazin. 26: 603—1954

Vibration damper. Harvey W. Welsh. 26: 133—1954

Vibration mode analyzer. Samuel J. Loring. 26: 480—1954

Vibration or impact indicator. Joseph H. Lancor, Jr. 26: 282—1954

Vibration pickup. Merlin O. Petroff. 26: 927—1954

6. Musical Instruments and Music

6.1 General, Unclassified

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Observation of the Tartini pitch produced by "sin9*x* +sin13*x*." Max F. Meyer. 26: 560—1954

Twenty-five years of musical acoustics. Robert W. Young. 26: 955—1954

Unison tuning of musical instruments. John F. Corso. 26: 746—1954

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Use of the sound spectrograph for appraising the relative quality of musical instruments. Winston E. Kock. 26: 105—1954

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American Indian music, past and present. Willard Rhodes. 26: 944(T)—1954

American tape music, past, present, and future. Otto C. Luening. 26: 944(T)—1954

Direct-reading harmonic analyzer for use in the study of the quality of musical sounds. C. A. Culver. 26: 144—1954

Enhancement of music by reverberation. Daniel W. Martin. 26: 144—1954

Growth and decay of the tones produced by various musical instruments. W. H. Stubbins, E. Holland-Moritz, and J. R. Frederick. 26: 144—1954

Loudspeaker accessory for the production of reverberant sound. Daniel W. Martin and Armand F. Knoblaugh. 26: 144—1954

Pressure level ranges of various musical instruments, and the effects of different rooms on these instruments. Neil R. Sorensen. 26: 933—1954

Subjective musical pitch. W. D. Ward. 26: 144—1954

Twenty-five years of musical acoustics. Robert W. Young. 26: 931—1954

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Method of and apparatus for composing harmonic continuities. Abraham Herman Frisch. 26: 283—1954
Musical instrument. Paul Shklar. 26: 927—1954
Sound deadening device for musical instruments. William E. Strobach. 26: 480—1954
String instrument instruction chart. Fred Bova and Joseph Bova. 26: 283—1954
Tabular device for musical modulation. Walter E. Carran, Jr. 26: 480—1954
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An objective psychology of music. Robert W. Lundin. (Reviewed by James F. Nickerson.) 26: 456—1954
Sensations of tone. Hermann L. F. Helmholtz. (Reviewed by Floyd A. Firestone.) 26: 1086—1954
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Measurements of the tonal characteristics of carillon bells. Frank H. Slaymaker and Willard F. Meeker. 26: 515—1954
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Acoustical properties of Japanese temple bells. Koji Sato and Yutaka Kohashi. 26: 931—1954
New tone source for electronic carillons. Frank H. Slaymaker. 26: 932—1954
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Percussion musical instrument. Emil Carlson. 26: 283—1954
6.3 Brass Wind Instruments (lip vibrated)
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Transient tones of wind instruments. E. G. Richardson. 26: 960—1954
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Intonation errors due to discontinuities in the valve mechanisms of trumpets. J. C. Webster. 26: 932—1954
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Mouthpiece for musical instruments. Paul L. Jones. 26: 927—1954
Trombone. Davis Shuman. 26: 927—1954
Trumpet tone control. Conrad Kaufer. 26: 927—1954
6.4 Drums and Other Membranophonic Instruments
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Vibrations of Indian musical drums regarded as composite membranes. B. S. Ramakrishna and Man Mohan Sondhi. 26: 523—1954
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Bass drum with rhythm beaters and pedal. Everett H. W. Clayton. 26: 603—1954
Drum. Eugene Levay. 26: 603—1954
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Head for musical instruments. Rafry L. McMullen. 26: 1102—1954
Heel operated drum beater pedal apparatus. Albert Sabo. 26: 1102—1954
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Transient tones of wind instruments. E. G. Richardson. 26: 931—1954
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Electromagnetic actuator for organ valves. William H. Reisner, Jr. 26: 284—1954
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Inharmonicity of piano bass strings. Robert W. Young. 26: 144—1954
Invention of the pianoforte. Emanual Winternitz. 26: 944(T)—1954
Modern piano. Theodore Steinway. 26: 944(T)—1954
Psychophysical comparison of just tuning with equal temperament in sequences of individual tones. W. D. Ward and D. W. Martin. 26: 932—1954
Subjective evaluation of musical scale temperament in pianos. D. W. Martin and W. D. Ward. 26: 932—1954
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Action for upright pianos. Ralph A. Wolfe. 26: 481—1954
Educational musical instrument. Pierre P. Pattyn. 26: 480—1954
Piano key action. Charles F. Smith. 26: 284—1954
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6.7 Violin Family. Stringed Instruments Except Keyboard Type
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Chord player. Mario Maccaferri. 26: 927—1954
Fretted finger board for stringed musical instruments and method of making the same. Mario Maccaferri. 26: 286—1954
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Guitar tuning device. Floyd B. Snodgrass. 26: 481—1954
Metal string for musical instruments. Povl Emanuel Jensen. 26: 284—1954
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Pitch changing device for musical instruments. Walter E. Smith. 26: 134—1954
Protective pad for violin and viola chin rest. Lola T. Stattler. 26: 1103—1954
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Stringed musical instrument having angularly adjustable string contacting mechanisms. John W. McBride. 26: 481—1954
Violin rest. Joseph E. Hall. 26: 603—1954
Violin rest. Rudolph H. Heimers. 26: 481—1954
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6.8 Wood Winds
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Transient tones of wind instruments. E. G. Richardson. 26: 960—1954
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Transient tones of wind instruments. E. G. Richardson. 26: 931—1954
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Keying mechanism for clarinets. Lewis F. Sutter. 26: 482—1954
Key mechanism for alto and bass clarinets. Leon Leblanc. 26: 481—1954
Key mechanism for alto and bass clarinets. Leon Leblanc. 26: 481—1954
Ligature for musical instruments. Walter W. Mueller. 26: 482—1954
Reed tester. Mario Maccaferri. 26: 482—1954
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Loudspeaker accessory for the production of reverberant sound. Daniel W. Martin and Armand F. Knoblaugh. **26:** 676—1954

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Electronic musical instruments—past, present, and future. R. H. Tanner. **26:** 931—1954

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Apparatus for the production of music. Benjamin F. Miessner. **26:** 482—1954

Damping means for tone generators. Frank H. Slaymaker and Willard F. Meeker. **26:** 286—1954

Electrically operated carillon. Harmannus T. van Bergen. **26:** 285—1954

Electrically operated musical instrument. William F. Battle and Michael A. Battle. **26:** 285—1954

Electrical melody instrument. John M. Hanert. **26:** 1103—1954

Magnetophonic musical apparatus. Pierre H. Schaeffer. **26:** 604—1954

Means for and method of tuning vibrating bars or rods. Joseph F. Marshall. **26:** 286—1954

Musical instrument. Walter J. Anderson. **26:** 286—1954

Musical instrument. Solomon Heytow and Richard H. Peterson. **26:** 286—1954

Organ stop control. Francis M. Schmidt. **26:** 285—1954

Pickup for musical instruments. Alvaro Company. **26:** 1103—1954

Vibratory reed electronic muscial instrument. Benjamin F. Miessner. **26:** 927—1954

6.10 Reed Organs. Accordions, Harmonicas

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Accordion. Hans Rappold. **26:** 1103—1954

Accordion knee support. Walter Kopa. **26:** 604—1954

Accordion shoulder plate. Walter Kopa. **26:** 604—1954

Chord-playing harmonica. Louis A. Ruben. **26:** 287—1954

Harmonica. Mejer Lieb Beker and Herbert A. Schriner. **26:** 928—1954

Harmonica. Joseph West and Jack Brooksbank. **26:** 134—1954

Harmonica apparatus. Edward A. Zielinski. **26:** 604—1954

Harmonica playing cover. Anthony Balint. **26:** 928—1954

Keyboard steadying device for accordions and similar instruments. Anthony Montenare. **26:** 482—1954

Portable musical instrument. Finn H. Magnus and Emil J. Ens. **26:** 482—1954

Reed for musical instruments. Joseph West and Jack Brooksbank. **26:** 482—1954

Reed organ wind supply. Joseph Robotti. **26:** 286—1954

Single-reed cell block. Charles De Gasero. **26:** 482—1954

Sound chamber for accordion pickup. Wilson W. Pompili. **26:** 287—1954

Supplemental accordion support. Edward Sanzone. **26:** 928—1954

Toy hand organ. Charles Feltman. **26:** 134—1954

Valve for the reed plates of reed instruments, such as mouth organs or accordions. Eberhardt Messner. **26:** 928—1954

Wind supply device for musical instruments. Joseph Robotti. **26:** 287—1954

7. Noise

7.1 General, Unclassified

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Visual contribution to speech intelligibility in noise. W. H. Sumby and Irwin Pollack. **26:** 212—1954

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Improved ear defender cushion. E. A. G. Shaw and G. J. Thiessen. **26:** 947—1954

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Visual contribution to speech intelligibility in noise. W. H. Sumby and Irwin Pollack. **26:** 583—1954

7.2 Annoyance

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Cumulative effects of repeated bursts of white noise on threshold for 4000-cps tone pips. Charles Lightfoot and James F. Jerger. **26:** 1048—1954

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Acoustic irritation threshold of white Pekin ducks. G. J. Thiessen and E. A. G. Shaw. **26:** 141—1954

High intensity sound as a repellant for Mallard ducks and other water fowl. E. A. G. Shaw and G. J. Thiessen. **26:** 141—1954

7.4 City Noise

PAPERS

Air-to-ground sound propagation. P. H. Parkin and W. E. Scholes. **26:** 1021—1954

ABSTRACTS

Research on reduction of outdoor noise. H. C. Hardy. **26:** 950(T)—1954

Survey of background and aircraft noise in communities near airports. K. N. Stevens and R. H. Bolt. **26:** 939—1954

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Measured attenuations *vs* frequency (db/1000 ft). P. H. Parkin and W. E. Scholes. **26:** 1022—1954

7.6 Noise in Buildings. (See also 2.2.)

ABSTRACTS

Research on indoor noise problems. John Parkinson. **26:** 950(T)—1954

Survey of noise environments in industry. H. B. Karplus and G. L. Bonvallet. **26:** 939—1954

7.7 Machinery Noise. Mufflers. Noise Silencers

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Laboratory evaluation of field measurements of the loudness of truck exhaust noise. D. B. Callaway and H. H. Hall. **26:** 216—1954

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9.5 Frequency Analyses of Speech Sounds

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10. Ultrasonics (Supersonics)

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10.4 Gases, Ultrasonic Velocities, Dispersion, and Absorption. (See also 11.3.)

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10.8 Chemical Effects of Ultrasonic Waves

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10.9 Biological Effects of Ultrasonic Waves

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11. Waves and Vibrations. (See also 13.)

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11.1.5 Analogies (in previous volumes see 11.7)

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11.2 Diffraction. Interference. Scattering. Reflection. Echoes. Standing Waves

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Spatial fluctuations in the backward scattering of sound from an acoustically rough medium. A. W. Nolle. **26:** 940—1954

Wave theory of vortex scattering. Ira Dyer and Uno Ingard. **26:** 137—1954

11.2.1 Gross Movement of Matter by Sound or Vibration. Acoustic Streaming. Chladni Figures. Kundt's Striae. Sensitive Flames. (See also 5.14 and 10.7.)

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Acoustic streaming experiment in gases. Herman Medwin. **26:** 332—1954

Acoustical streaming in the vicinity of a cylinder. W. P. Raney, J. C. Corelli, and P. J. Westervelt. **26:** 1006—1954

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Nodal patterns of the first nine normal modes of drumheads. B. S. Ramakrishna and Man Mohan Sondhi. 26: 527—1954

11.3 Propagation of Sound. Absorption during Propagation. Velocity of Sound. Second Sound. Refraction. Wavelength. Doppler Effect. (See also 10.4, 10.5, 10.6, 13.2, and 13.3.)

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11.5 Sounds of Finite Amplitude. Distortion. (See also 13.10.)

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Acoustical apparatus. Philip T. Russell. **26**: 288—1954
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Coded impulse responsive secret signaling system. Edwin E. Turner, Jr. **26**: 484—1954
Echo distance measuring circuit. James L. Russell. **26**: 134—1954
Echo ranging and sounding system. David H. Ransom, Jr. **26**: 605—1954
Outboard transducer assembly. Donald Owen Nelson and Robert Parker Geddes, Jr. **26**: 288—1954
Underwater sound detecting and indicating system. Harold P. Knauss. **26**: 605—1954

13.11t Transducers for Underwater Sound. Transducer Calibration. (See also 5.18.)

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Some interesting barium titanate transducers. Harry B. Miller. **26**: 139—1954
Two-projector method of absolute calibration at low audio and infrasonic frequencies. W. J. Trott. **26**: 947—1954
Variable length hydrophone. M. V. Mechler. **26**: 935—1954
Wedge horns for use with the line hydrophones. C. M. McKinney and C. D. Anderson. **26**: 139—1954

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Hydrophone casing. Russell I. Mason, John F. Ripken, and Hector F. Bernier, Jr. **26**: 134—1954
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Transducer housing for sonic apparatus. Clyde W. Harris and Joseph M. Kime. **26**: 930—1954

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